

Free!

ANALYSIS COMMENTARY EDITORIAL TIPS  
*The* **COMPUTER PAPER**  
NEWS REVIEWS FEATURES

METRO TORONTO EDITION FEBRUARY 1993 VOLUME 6 NO. 2

# Upgrading Your Computer

486SX

586DX

Upgrading the  
**Amiga**



Spreadsheets  
for the PC  
Compared

Personal  
**TAX**  
Software

WordPerfect  
**HOT TIPS**  
Inside!



\*\*\*ALL PRICES ARE ALREADY CASH DISCOUNTED-PRICES IN EFFECT AS OF JANUARY 1963\*\*\*

**COLOUR NOTEBOOKS**



INTEL 486-16SD PROCESSOR w/128 cache,  
for incredible notebook performance  
BUILT-IN FAST HATCH COPRO-DW-486D4  
chip, for CAD, engineering, spreadsheets, etc.  
LANDMARK VER 3.0, speed=11MMH/sec  
speed runs through big workloads.  
DIRECT HATCH COPRO-SPEED-2764444  
Just imagine AutoCAD on the jobsite.  
4MB 7.0ns RAM expandable to 16MB, more  
RAM capability than other units  
ANSIBLE 100MB HD, 17ms 990kb/s transfer,  
270MB also available.

486DX33 Mono, 120HD, 4MB	\$3199
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486DX33 Color, 80HD, 4MB	\$3299
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486DX33 Color, 120HD, 4MB	\$4399
486DX33/50 Color, 120HD, 4MB	\$4799
486DX33/50 Color, 120HD, 4MB	\$4899
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## POWER NOTEBOOKS

[illegible][illegible]

## UPGRADES

**NAME** \_\_\_\_\_ **DATE** \_\_\_\_\_

150048	Mariner	1	1mm	0-45	castles	10-45
150049	Mariner	1	1mm	0-45	castles	10-45
150050	Mariner	1	1mm	0-45	castles	10-45
150051	1	4mm	1500/1622	core	castles	10-45
150052	1	4mm	1500/1622	50g/ha	castles	10-45
1	1/2	1mm	1500/1622	50g/ha	castles	10-45

1111 1112 1113

THAT (index) card (254 copies) .....	500
ATI 4: THAT (index) .....	
THAT (index) .....	25.00
ATI Graphics Editor THAT (index) .....	1.00
Automating an impact data file transfer .....	1.00
Windows: (ATI) (ATI) .....	1.00/1.00
ATI (ATI) (ATI) .....	1.00

## DESKTOP COMPUTERS



## DESKTOP PACKAGE DEALS

<b>Ultinet 300SX-25</b>	SVGA, 1 floppy 80MB HD	<b>\$1080</b>
<b>Ultinet 300DX-33</b>	SVGA, 1 floppy 80MB HD, —	<b>\$1190</b>
<b>Ultinet 400DX-33</b>	SVGA, 1 floppy 80MB HD, —	<b>\$1600</b>
<b>Ultinet 400DX-50</b>	SVGA, 1 floppy 80MB HD	<b>\$1800</b>
<b>Ultinet 400DX2166</b>	SVGA, 1 floppy 80MB HD	<b>\$1950</b>

Address: [Amir@cs.cmu.edu](mailto:Amir@cs.cmu.edu) | [www.cs.cmu.edu/~amir](http://www.cs.cmu.edu/~amir) | [www.cmu.edu](http://www.cmu.edu) | [www.cmu.edu/~amir](http://www.cmu.edu/~amir)

## VL Local Bus MULTI MB0 add \$150

## OPTIMAL RESOURCE MANAGEMENT

Each additional unit of CPU time	0.00
Additional memory (1 bit in 1 byte)	0.00
Internal variables in the program	10000
Big integer using small word	0.00
Low and medium operations	0.00
Constant or temporary memory	0.0001

## THE PIONEERS

[illegible]

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We are located just 4 blocks South of 401 near Verdale  
at the corner of Dufferin and Saurer Road

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# LOCAL BUS 486DX SYSTEM!



## Trend 433DXL

ONLY \$2799

- 486DX-33MHz Intel CPU
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- 4MB RAM (70ns); up to 32MB on board
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- 17" Magnavox non-Interlaced SVGA colour monitor w/ super flat screen
- "MEW" 1MB Windows accelerator SVGA card (16.7 million colours)
- 101-key enhanced keyboard
- Mini tower case with 200 watt power
- MS DOS with password setup

INCLUDES  
**FREE**

MS DOS 5.0, Windows 3.1  
and a Microsoft Mouse



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HARD DRIVE  
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**279-1988**



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**SCARBOROUGH**  
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2011 Sheppard Ave. West  
**THORNHILL**  
**889-0199**





# If money is no object, buy one of their 486/66 PC's.

AST	COMPAQ	DELL	IPC
<b>Base Model</b>	<b>GoldPro 486</b>	<b>486SX</b>	<b>486XT</b>
486DX2/66	486DX2/66	486DX2/66	486DX2/66
8MB RAM	16MB RAM	8MB RAM	8MB RAM
14" SVGA Color Monitor	17" SVGA Color Monitor	17" SVGA Color Monitor	14" SVGA Color Monitor
200MB HD	240MB HD	200MB HD	210MB HD
256K cache	64K cache	no cache	128K cache
MS-DOS 5.0	MS-DOS 5.0	MS-DOS 5.0	MS-DOS 5.0
Windows 3.1	Windows 3.1	Windows 3.1	Windows 3.1
MS Mouse	Compaq mouse	MS Mouse	MS Mouse
140W	140W	220W	200W
3 Year Warranty	3 Year Warranty	1 Year Warranty	3 Year Warranty
<b>\$4599</b>	<b>\$5031</b>	<b>\$4439</b>	<b>\$3549</b>

**N**O DOUBT ABOUT IT. If money is absolutely no object, there isn't much reason to buy an IPC. After all, the only real difference between their computers and our computers is the price.

We started with the same incredibly fast Intel 486DX2/66 microprocessor that they did. Then we designed a chip set that took full advantage of the DX2's speed and power and surrounded it with perfectly compatible components.

We installed the same high quality RAM and top notch disk drives (plus a fast caching controller). Put in an excellent SVGA video card and topped it off with a high resolution monitor from a well known manufacturer. Then we pre-loaded Microsoft Windows 3.1, MS-DOS 5.0, and included a genuine Microsoft mouse. We even threw in working models of Excel, Word, Power Point, and Project.



The IPC 486XT is also available in a standard beige mid tower case.

toll-free technical support but we figure happy customers are a good investment.

So, all things considered, at a thousand bucks doesn't mean much to you — buy one of their computers. If you're like the rest of us, maybe it's time to find out more about IPC. Call us today for the name of the qualified dealer nearest you (toll-free of course).

## WHAT DO THESE PRICES MEAN.

To be fair, we used "suggested list prices" quoted directly by each manufacturer during the week of November 3, 1992. We made every effort to compare systems that are as similar as possible but each vendor has their own ideas about what is and isn't standard.

Naturally, list prices are not accurate selling prices (except in the case of Dell who sells direct). But whatever price you pay you can be sure of something — dollar for dollar IPC offers the best value in the computer industry. We wouldn't have it any other way!

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<b>Adco Electronics</b> Beverly (954) 575-6200	<b>Hi-Tech Systems</b> Beverly (954) 500-9913
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<b>Compu Computer</b> Scottsdale (602) 754-2525	<b>Microcity Systems</b> Scottsdale (602) 250-0825



We did go a little overboard with a three year limited warranty and cross Canada



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**Notebook**  
100% designed & assembled

386 DX2, 33 MHz  
3 MB RAM, 80 MB HD,  
8.5" ultra deep, 32 grey  
widescreen VGA, only \$1795

486DX-33C  
386C Celeris Intel®  
100 MB Hard Dr.  
1 MB SVGA  
\$1750

Operating system or operating software is sold separately. All prices are in U.S. dollars and are subject to change without notice. Taxes and shipping apply.

**PCMaster** (416) 591-8617 3330 Midland Avenue, Unit 18  
Markham, Ont. L3R 9V9



Toronto (416) 764-5013 • Calgary (403) 264-4320 • Vancouver (604) 682-8870

**Intel 486 DXII**  
**\$1950**

Upgrade to **QUANTUM 170MB Hard Drive** \$50  
AMAZING Max Intersect VGA Monitor • ATI GL31 1MB Video Processor 16.7M colors  
170MB MAXTOR Hard Disk Drive • 486 Inst 30m System Memory

320 w/ CD-ROM/Power Supply • 33.3 Mhz (enhanced) Keyboard • 1.2MB • 1.44MB floppy Night Idea  
2 Serial • 1 Parallel • Game Port Included • Mini Tower Style/Case Binding Choice

**DOS 5.0 • Mouse • Pad**

**Intel 486 DX**  
**\$2890**

ATI Graphics Ultra Video Processor with 1MB VRAM  
NEC SPX2 15" LG Monitor • QUANTUM 245MB/True Hard Drive  
486 Inst 30m System Memory

320 w/ CD-ROM/Power Supply • 33.3 Mhz (enhanced) Keyboard • 1.2MB • 1.44MB floppy Night Idea  
2 Serial • 1 Parallel • Game Port Included • Mini Tower Style/Case Binding Choice

**DOS 5.0 • Mouse • Pad**

**Intel 386 DX / Intel 486 DX**  
**\$1170 / \$1520**

AMAZING Super VGA Color Monitor • Super VGA 512KB Video Card  
170MB QUANTUM Hard Disk Drive • 486 Inst 30m System Memory

320 w/ CD-ROM/Power Supply • 33.3 Mhz (enhanced) Keyboard • 1.2MB • 1.44MB floppy Night Idea  
2 Serial • 1 Parallel • Game Port Included • Mini Tower Style/Case Binding Choice

**DOS 5.0 • Mouse • Pad**

\*All MSRP are in U.S. dollars and are subject to change without notice. All prices are in U.S. dollars and are subject to change without notice.

## WHAT'S NEW

### More Lasers, less Dot Matrix

FOR THE FIRST time, a laser printer is selling more units than a dot matrix printer. In Canada, that means the laser printer is the most popular printer for the first time.

Overall sales of both types of printers are still down from last year, but the laser printer is the only one that is up. In fact, the laser printer is the only one that is up in the last five years.

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### The Canadian Printer Market



Source: International Data Corporation

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### Sales of Used Computers

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### Job Opportunities Are Available For Information Systems Skills

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Contact: Robert Half International, Toronto  
(416) 594-4000

## WHAT'S NEW

### File your Taxes by Phone



Quick! Do you hope to file your taxes electronically this year? You can now avoid a long wait at the tax office by using a computer program. Quick! It's called Tax! It provides the taxpayer through a telephone line with the results of the required calculations. Tax! also transmits the results to Revenue Canada electronically through the phone line.

Dr. James D. Hall, President of Quick and Revenue Canada has been bringing us the service previously over the last few years but a few years ago it was made available to all taxpayers at a price of \$19.95. Now, we have just completed the program so that anyone can use it.

### Herbs That Heal

The Herbalist CD-ROM is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

According to the company, it contains a wide range of information on herbs and healing. You can learn how to use herbs in your kitchen, how to use them in your garden, how to use them in your home, how to use them in your business, how to use them in your life. The Herbalist CD-ROM is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

The publisher of the CD-ROM is The Herbalist CD-ROM. It is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

Search software finds key words, phrases and topics in the software. The Herbalist CD-ROM is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

There are several advantages to the software. First of all, it's a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

Contact: Call 1-800-444-4444 for 444-4444.

There are four main reasons for this. First, it's a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

The Herbalist CD-ROM is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

David L. Hoffman is the author of the book and is a member of the Herbalist CD-ROM. He is a new CD-ROM based software package for personal use. It was created by David L. Hoffman (The Herbalist) which explains the world of herbs and their uses.

Contact: Call 1-800-444-4444 for 444-4444.

# Preview

## IBM-PC SOFTWARE

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CPU	486	486	486	486	486	486
Cache Size	0K	64K	128K	144K	256K	512K
System RAM	2MB	4MB	6MB	8MB	16MB	32MB
1MB floppy	✓	✓	✓	✓	✓	✓
2MB floppy	✓	✓	✓	✓	✓	✓
Hard Drive	32 MB	65 MB	128 MB	128 MB	128 MB	128 MB
D/S/F/H	✓	✓	✓	✓	✓	✓
Video Card	VGA 256K	VGA 512K	VGA 512K	VGA 512K	VGA 512K	VGA 512K
Monitor	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K
Case	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K
Keyboard	BT 512K	BT 512K	BT 512K	BT 512K	BT 512K	BT 512K
Price	\$990	\$1250	\$1290	\$1640	\$1890	\$2090

486	486	486	486	486	486	486
Cache Size	0K	64K	128K	144K	256K	512K
System RAM	2MB	4MB	6MB	8MB	16MB	32MB
1MB floppy	✓	✓	✓	✓	✓	✓
2MB floppy	✓	✓	✓	✓	✓	✓
Hard Drive	32 MB	65 MB	128 MB	128 MB	128 MB	128 MB
D/S/F/H	✓	✓	✓	✓	✓	✓
Video Card	VGA 256K	VGA 512K	VGA 512K	VGA 512K	VGA 512K	VGA 512K
Monitor	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K
Case	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K	MT 512K
Keyboard	BT 512K	BT 512K	BT 512K	BT 512K	BT 512K	BT 512K
Price	\$990	\$1250	\$1290	\$1640	\$1890	\$2090

**OCEAN ELECTRONICS**  
835 Denison St. Unit 2 - Markham, Ontario L3R 6E4  
Tel: (416) 946-8888 Fax: (416) 946-9990  
Mon. to Fri. 10:00 - 6:30 Sat. 10:00 - 5:00

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A complete tool for building successful businesses. It's the only software package that can help you build a successful business. It's the only software package that can help you build a successful business. It's the only software package that can help you build a successful business.

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**Mathvater V 1.5 Software Package \$499.99**

Call 1-800-278-1505 for more information.



## VIDEO to Print



Management Language for (MGL) recently introduced a video to print conversion system that digital video images from both video sources and a VHS. META MGL Mail Mail Video Audio Photo CD and others.

## Virus Alert

Look Software, the makers of the anti-virus program Alert, has warned that the software package has gained within its last international version by the inclusion of an updating PC diagnostic virus of testing, since the package is scheduled for the March/93 issue in the U.S. According to the company, the program will also be included in Alert Security, their listing of top antivirus products scheduled for this Jan/Feb/93 issue.

The company also claims that a new Alert security download and download 1

video package was recently released by the company. The package is a 100,000 frames per second video image in 100 frames per second. The package is a 100,000 frames per second video image in 100 frames per second.

Others can get a chance to see video images, as the package is available in a 100 frames per second video image in 100 frames per second.

Contact: Look Software, 1-800-887-4575

with a download of the Green Catalyst virus on an 800,000 frame per second video image in 100 frames per second. The package is a 100,000 frames per second video image in 100 frames per second. The package is a 100,000 frames per second video image in 100 frames per second.

Contact: Look Software, 1-800-887-4575

## PC Buyers Remorse: What PC Buyers Wish They'd Gotten

BUFFALO, N.Y. — In a survey released by Channel Marketing, one thousand PC and computer owners were asked what they would do differently if purchasing their computer again including things they had in change later.

Of the top five things on the "I wish I had" list, most owners want more space to expand. Two thirds of owners reported they did not want more space to expand. Two thirds of owners reported they did not want more space to expand.

Forty-four percent of the respondents wish they had gotten a better quality monitor. They also wish they had gotten a better monitor. They also wish they had gotten a better monitor.

More than 40 percent of owners reported they did not want more space to expand. Two thirds of owners reported they did not want more space to expand.

More than 40 percent of owners reported they did not want more space to expand. Two thirds of owners reported they did not want more space to expand.

Forty-four percent of the respondents wish they had gotten a better quality monitor.

## Power Plus Systems

486DX33 \$2099

486DX50 \$2399

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4M Memory, 25MB Cache  
PS/2 Mouse, Modem  
1.44MB & 1.2M Floppy Drive  
Super VGA Monitor 2500  
1M 3.5" 24 Video Card w/ 1M  
2 Serial, 1 Parallel Port  
Mail Tower Case  
200 Watt Power Supply  
Keyboard, 1M Key Keyboard  
1M Mouse  
MS-DOS 5.0  
2 Years Parts  
1 Year Labor Warranty

## Power Systems

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486DX50 \$1899

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Super VGA Monitor 2500  
1M 3.5" 24 Video Card w/ 1M  
2 Serial, 1 Parallel Port  
Mail Tower Case  
200 Watt Power Supply  
Keyboard, 1M Key Keyboard  
1M Mouse  
MS-DOS 5.0  
2 Years Parts  
1 Year Labor Warranty

## 386DX40 Power System

486DX33 CPU, 486DX33 CPU, 4M Memory  
1.44MB & 1.2M Floppy Drive  
Super VGA Monitor 2500 & 1M 3.5" 24 Video Card w/ 1M  
2 Serial, 1 Parallel Port, MS-DOS 5.0, 1M Key Keyboard  
Mail Tower Case of 200 Watt Power Supply

All prices are cash and carry. Price and availability subject to change without notice.

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half the price of a year ago, the 486DX is a bargain and still quite a performer. However, even you get almost three times the computing power (about 40 percent) as compared to the 486DX with a 60MHz option at only over the price the 486DX. You can't have the 486DX if you need the price.

The most popular 486DX is available in the GXP (Gigabyte) and GXP G (Gigabyte) series. The GXP G is more advanced on the pricing of 100 and was the first to include a 60MHz controller. The price was made from GXP G to GXP G, but in the integrated hard-disk controller, the GXP G is more advanced than the GXP G, though the price is still primary and secondary storage was not included in a 100 line.

The GXP G is more advanced than the GXP G, though the price is still primary and secondary storage was not included in a 100 line. The GXP G is more advanced than the GXP G, though the price is still primary and secondary storage was not included in a 100 line.

There are three models in the GXP G series with prices of \$1,000 and \$1,100. Which one is right for you depends on the amount of money you have to spend and the computing power you need. The GXP G is more advanced than the GXP G, though the price is still primary and secondary storage was not included in a 100 line.

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For the speed difference, there is a comparison of 486DX models. The 486DX is more advanced than the 486DX, though the price is still primary and secondary storage was not included in a 100 line.

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The company says that that version of Excel works better than any other spreadsheet it better knows on what users actually do with their spreadsheets. As a result, the results have moved many of the features in Excel 4.0 off the push-down menu and the the larger icons and even the toolbar and as part of the look of "Windows" because the Microsoft purchased in "Windows" features.

There are four major areas where Microsoft has worked to improve Excel: larger spreadsheets, various status and reports, and Lotus 1-2-3 transitioning and co-existence.

Microsoft also has suggested that the vast majority of users only want quick entries to their data per year of a spreadsheet's functions. And in the past, very slow functions have been hard to get at. So a number of simple, common-sense features of "intelligence" have been built into Excel 4.0 to make these more available.

One such problem, for example, has traditionally been in writing up numerical responses. Now there you need to have the figures for first quarter, second quarter, third quarter and the whole year for

the whole year. You don't have to do that any more. Microsoft has designed what it calls a "response manager." You can click with working with the data sets of data — and there, you apply different sets of data as a whole to the response manager.

**Product:** Quattro Pro for Windows  
**Publisher:** Borland International  
**System requirements:** 486 or better computer capable of running Windows 3.1 in standard extended mode

**Software:** Windows 3.1



While Excel has not been a direct competitor to Lotus 1-2-3 for the past few years

as it required the hardware and processor capabilities demanded by Windows, the 1985 version of Borland's Quattro spreadsheet has gone Lotus by Products.

Quattro Pro was considered by many to be what Lotus 1-2-3 Version 3.1 should have been. But now, Borland is planning to have sold more than three quarters of a million copies of the 1985 version of Quattro spreadsheet.

In fact, Lotus got so upset about the whole thing it took Lotus to court for misleading its own customers in a "Lotus compa-

Continued on page 23

**There are four major areas where Microsoft has worked to improve Excel: basic usage, analysis tools, presentations and reports, and Lotus 1-2-3 transitioning and co-existence.**

Microsoft has also worked to improve Excel: larger spreadsheets, various status and reports, and Lotus 1-2-3 transitioning and co-existence.

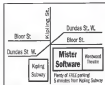
Excel 4.0 is intelligent enough to know that once you have typed Q1 in cell A2, you will probably want Q2 in adjacent cell B2. So you want any adjacent cells "filled" with data a what you call such a sequence in the wonderful world of spreadsheets. All you have to do is type the first data in one cell and then grab the "fill handle" and the house right-hand corner of the cell and Excel will automatically fill the cells per highlights with the data series.

This can only work with financial operations, but also with dates, months, weeks and any other numerical data series. It's "automatic" because Excel will also work with "non-numeric" data series relationships if you provide it with the first two cells filled in B1. For example, cell A2 contains the address of your bank balance and cell B2 below it contains your balance minus a withdrawal. Then in cell B3, there you would only type in the first cell B3 in the first column of cell B3 and it would continue doing your bank reconciliation (assuming all credits and debits are listed in column A) for as far down column A as you wanted to doing the fill handle.

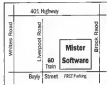
In Excel 4.0, Microsoft has also given well forward the traditional idea of spreadsheets being about doing "what-if" calculations on a whole variety of parameters. Now there's one part of doing "what-if" that has been the dream to get the best of CD software for a full discount of 50 per cent, and I made more in getting a "major" profit margin than I lost in paying interest on "banking".

After a lot of talking around, you usually end up with a number of different answers — a really good one, a realistic one and a heavily pessimistic one. Although they often share the same sets of data, you may still end up with quite a different story — or at least give a view in a different part of the spreadsheet.

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## THE CURRENT AMIGA LINE

1991 was another banner year for Commodore and for Amiga. With the introduction of three new computers, the Amiga 486, the Amiga 1200 and the Amiga 4860, Commodore has demonstrated its commitment towards keeping Amiga on the leading edge of computer technology.



The leading edge technology, combined with aggressive pricing, has made these new computers very hot sellers indeed.

And not to be forgotten, the Amiga 286 and Amiga 386 have proven popular as ever with the unique Amiga architecture and operating system, including the various chips, a disk, graphics user interface and the multi-tasking, Agos, aggressive pricing once again has the lead role.

## SOFTWARE AND HARDWARE PERIPHERALS

Product interest by third party developers are continuing at a dizzying pace. Space does not permit listing more than a few of the new products due for imminent release or already released.

## OPEN VIDEO

A distribution software business 24-bit compatible Graphics and Video System. Released in mid 1991, we are currently awaiting the on-line module which includes a frame grabber/product, a dual input production interface, a monitor display a color-to-color converter.

The latest OpenVideo system is an expensive 24-bit graphics card/program and has been in high demand. With the addition of the on-line to selected modules, OpenVideo will provide easy video features of the Video Tower.

## DESKTOP PUBLISHING AND WORD PROCESSING

Both Eagle and Eagleman Development have just released an Expressions, an outstanding streamlined desktop program. FinalCopy II by Software, now available for several months, continues to enjoy great sales.

## MULTIMEDIA

Smile MM300, a greatly enhanced version of the original Smile which was being distributed by GNT is now being handled by Smile themselves. It is simply the most flexible, powerful and easy to use audio-visual program available for the Amiga. We are also currently seeking the release of Amiga music performed by Commodore.

## GRAPHICS

Aldus 40 by Aldus is the latest way into the modeling, rendering and animation field. Amiga is a platform of features in this program which is greater than any other personal design.

Flarevision by Clarity is also a computer design software design on the software side. Use of open space rather than traditional polygons makes this program perfect for illustration creation.

ImageIt by GNT has a great AGOS's Art Department Professional and Morph Plus in the image processing and imaging field. With the introduction of ImageFX, GNT has been propelled onto the scene once more. Morphing is just one of ImageFX's features. A small short sampling only version, Concept, is also available.

## UTILITIES

Secureworks has just released their long awaited upgrade to Directory Open, Version 4.0. While the original Directory Open did its monitoring program, the new version is presented in a much more user friendly to the CLI shell. It is interesting to note that the new file for the new version is a full disk space with a standard hard. Definitely a most basic tool, drive management utility.

Don't release immediately a Amiga Back Tools by Moonlight. This product promises to provide secure cooperation in Quickback, Docs.

## LANGUAGE

GNT has been as prodigious as ever with new releases. Their Pascal Pak (described in the last two editions of Amiga Pak) and the C Pak, a very affordable, high performance control package, are both in high demand.

## OTHER PRODUCTS

Hard drives, memory expansion and accessories make the most sought after hardware peripherals for the Amiga. As a result, a host of developers are trying for the market, resulting in most very competitive pricing.

## OUR NEW IDEAS

On Saturday, December 15th, we plugged the Amiga Mouse into the Amiga as our new idea. This new mouse is more convenient in design, much larger than our old mouse and allows us to provide a greatly increased level of customer support.



Starting in early February, we will be offering these new mouse in our fully Amiga equipped classroom. These mouse will make these games, introductory instruction in using the Amiga to advanced techniques in graphics, animation, desktop publishing, desktop video, etc.

Our expanded on-site service department will ensure quick turn-around for all your servicing needs.

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# Personal Income Tax Software for less than \$70

BY KEN GILBORN

*In this article we will provide comments on six programs that are being developed for the 1992 T1 taxation year. Four programs were provided us by the developers as preliminary versions; final products should be released by the time you read this article. One developer provided us with their pre-filing version, and the other with an established track record has provided information on changes. Our comments will assist you to determine which one of these supercomputer programs will best fit your requirements.*

The products reviewed include HomeTax, Quick Return Protax and Comtax on the Macintosh, and HomeTax Pro and Comtax for the Windows environment.

T1 personal income tax software is purchased for a variety of reasons. Individuals consider T1 software as:

- ensure that the lines are automatically accurate, especially as changes are made;
- assist in maintaining books for deductions using rules to diagnose errors;
- carry out what calculations more effectively;
- allow financial and tax information planning a wider view throughout the year;
- maintain control of the preparation of the final product;
- maintain program costs for advice, time and expense.

All the products discussed here provide

assurance that the mathematical calculations in the final return systems and rates are updated correctly. Some of the products provide more capabilities than others in the accumulation of the situation. All products allow what calculation ability however there are differences in how this is done.

HomeTax released in early fall allows you to file your planning directly within the T101 system, but you must request for the T101 system to allow you to print and file the return with the approved forms. All six programs provide the ability to enter into your preparation time if your client is to have a tax preparation firm or tax professional prepare a number of family and/or friends returns. In that the more users are using a tax service is about \$40 per return.

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**Personal Tax 1** continued from page 25  
 release in the full period of the taxation year helps ensure the program is useful for planning, particularly with the annual software. However, this means you must register the program to receive the free updates to enable to print Revenue Canada approved forms for filing.

Registration also ensures that you are made aware of any tax changes to the tax law. All in all, *Personal Tax 1* is a good product for personal T1 preparation.

#### CAMAS

**Publisher:** Camas Corporation Ltd.  
 Suite 100 4100  
 245 Street Boulevard  
 Etobicoke, Ontario M9B 1W6  
 (416) 295-8800 or 1-800-880-0800  
 Fax: (416) 292-0281  
**System Requirements:** IBM PC XT AT PS/2  
 1020 and compatibles  
 440 Kbs min. graphics  
 3000 3.5" or higher  
 Hard disk: 2.0 MB free space  
 Monochrome or color monitor  
 (all values in 15" format)

**price of this system:**  
 \$2299 (MSRP) (street) \$2000

The Camas T1 program has been a consistent performer over the years. There are two versions of the T1 personal program, the basic version and the professional program. The basic program allows preparation of returns for up to 10 people and does have a database of a single tax return; the professional version has a multiple returns/dependants program and a single filing/filing income return. Information is entered into various fields in order to making the appropriate

adjustment in the tax return. There is a page feature as to other programs that allow you to enter data for updates in the same time, while preparing returns for a couple. The program becomes installed as add-on to an existing system or as a standalone system. Revenue Canada has provided their approval of the form for filing. A final review is available to check for any changes.

The program uses extensive defaults and allows a manual file update to find the user through the program. The user there is a fully feature, there is a diagnostic screen that indicates apparent inconsistencies in the entry of data. The return is a list of schedules supported includes a long list of business/Personal and Personal income/expense schedule, a statement of income/expense, interest and expenses, rental income, miscellaneous expenses, office-in-house expenses, RRSP calculations, transfers, and other others. It has a tax summary feature that shows you the ability to view the calculation.

A planner schedule within the program allows you to plan your tax income and expenses at any time. This allows you the ability of planning in the program the current year returns, as well as any time during the subsequent year. There is also a schedule to determine the malpractice reported.

The printed output from the program is professional-looking and easy to read. The use of a home printer will allow you to print a quick and schedule which has you for Revenue Canada. A professional format which is very easy to use, though data is saved from the print out.

The program does not calculate or provide for Quebec provincial taxes. Other than that, it has an exceptional product for preparing a limited number of returns.

#### PROTAX

**Publisher:** Protax Software Inc.  
 1000 Highway 100  
 Mississauga, Ontario L4T 1A1  
 (416) 607-1000 Fax: (416) 607-1001  
**Price:**  
 \$299 (MSRP) (street) \$250  
**System Requirements:** IBM PC XT AT  
 PS/2 1020 and compatibles  
 440 Kbs min. graphics  
 6000 3.5" or higher  
 Hard disk: 1.0 MB free space  
 Monochrome or color monitor  
 (all values in 15" format)  
**Price:**  
 \$299 (MSRP) (street) \$250

Protax is a relatively straightforward program using a simple menu structure. It has a T1 page manual that provides information on the installation of the program, the use of keys and screens data entry and printing functions. Upon entry into the program you enter the personal information and are then led through a series of questions and input fields to complete the return.

You do not enter information into a screen view of the return. There is an actual view of the return and you enter data in on screen using the T1 function key on the screen. A summary screen will allow you to view the T1 which provides a complete view of the return for a taxpayer and printer and can be used to make your return documents.

Continued on page 32

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## Standard Terminal Integration

This advantage of standard UNIX has applications of my terminal.

## commtalk BY JAMES MACFARLANE



# Is a computer-based home office practical?

*If you're like me, you get to play computer consultant for the whole family. You never know when your wife is going to call you up and ask how to install a mouse, or when your long-lost second cousin asks about buying a computer.*

**C**hrisman has me on my game. This one is me there, my father-in-law. It's 4:12 and I'm plotting on going into unemployment in the spring. He lives and works in Toronto and will be meeting in Mississauga, where he works, to get a home office and the most private (including in) supplement his income and for 1994.

He is the senior manager for a company that sells and installs computers and security equipment for schools and large companies. The majority of his work will come from his former employees, who will still be in Toronto.

His job will be to make up proposals — everything from the equipment, software, installation, wiring, and pricing, as well as some general analysis of the company's finances.

**Fax machine or faxmodem?**  
Using fax technology makes the case since it's the quickest way to move detailed information and drawings between Toronto and Mississauga. But should a computer equipped with a fax/modem or a standard fax machine be used?

Here explained why he didn't want a regular fax machine. His documents had to be up to seven pages. Many of his projects were for buildings that weren't built yet and the documents would have to be for years after completion. Thermal fax paper would last (probably 4). Fax machine — \$400.

He explained a second situation. Get the fax machine and a cheap photocopier. All documents that need to be faxed could be photographed. Get (Solution #2: Fax machine and photocopier — \$400).

The third proposal would be to buy a computer and a fax/modem. This would allow him to run even the cheapest fax machine faster than his fax machine and would allow him to type up his proposals in a word processor as well as use other software packages for other projects.

He estimated that having a computer around would be over but was not necessary to be put. He'd be quite happy to do in fact of his old IBM Selectric typewriter and type up his proposals "the hard way" (Solution #3: Computer and fax/modem — \$2000).

The only problem in the drawings. He does all of his sketches by hand. With a fax/modem there would be no way to fax his drawings. Get (Solution #4: Computer, fax/modem, and scanner — \$2000).

Full-page scanner might cost too much. He discussed the idea of scanning in a computer-based drawing system, but he was made more comfortable with word and paper. (Plan in #4: Computer, fax/modem and scanner \$2000).

Of course, he could buy a plain-paper fax machine. This would provide him with those that wouldn't modify what a year and would give him much of the functionality a computer fax/modem system would provide. (Solution #5: Plain-paper fax machine — \$2000).

**Although buying a fax machine and a cheap photocopier may be the cheapest route, it's likely the one that's going to require the most maintenance.**

**Is a facsimile the answer?**  
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**Personal Tax** (Continued from page 26)

The updated version is noteworthy in that it now lists (in alphabetical order) the "T1" key supporting schedules for various income such as RRSP, a moving expense, etc. need to be completed on various forms and submitted with the personal return. The professional version reviewed did not have a calculation function to determine the standard amount of RRSP which could be claimed, but the developer has indicated it will be available in the final release of the program.

Computer prices a good deal less than a

available for business, consumer and professional planning and filing. Taxes such as interest and dividends are entered into the schedule. The dividend schedule now annual dividends received instead of monthly dividends in earlier programs.

Proton does not provide an audit trail inside function such as Maxima and Compu to ensure fields are logically filled out. Special transfers must be done using a separate transfer function and also some errors to ensure correct filling of checkboxes for the taxpayer indicated. The program, however, is designed to update and save the program in order not to affect

of errors. This may be maintained as display of last edit. The program generates a final tax (final) approved form.

The developer does not provide any technical information on his software or other programs he does not supply a detailed manual, stating you have to use the Revenue Canada or other sources of support of a commercial one. The program, like others in this class of product, does not deal with Quebec provincial taxes.

Aside from the above comments on the method of reporting (financially and the lack of tax compliance) software, we found Proton to be an easy-to-use, simple and effective tool for the preparation and filing T1 returns on returns.

**QUICK RETURN**

Publisher: QRM Software Co.

10100 Avenue

Toronto, Ontario M6H 1B6

Phone: (416) 597-9772 Fax: (416) 597-9728

System Requirements: IBM PC XT AT

PS/2 VGA and soundcard

400MB or greater

286/33 or higher

Hard disk: 20 MB free space

Manufacturer's color monitor

Supports Microsoft mouse and

computer, and runs in MP (multi)

computer format

Price: \$29.95

Quick Return is designed to facilitate the preparation of an estimated number of relatively simple tax returns. The program has a limited number of supporting schedules and forms. However, in contrast to Maxima, it does have some well laid out, computer-generated schedules for business, professional and rental income and expenses. To offset the lack of other supporting schedules of forms the program has an

advanced calculator function to calculate and print the appropriate amounts due the crown.

Returns are filed using a modified screen view of the T1 form. There is a wealth of information available in screen the program of knowing what is required to fill in the appropriate fields on the screen and advanced schedules, and advice on how to provide information. The manual also provides some tips on efficient tax calculation.

The program provides ongoing information on the effect of the tax entry into the program. Advantages are available in viewing reports of the currently entered data and mapping between screens using the "TV" function key.

Quick Return is offering electronic filing capabilities this year. It is using as the primary and maximum amount for a fee of \$4.00 per return submitted electronically. This makes a major saving on the direct access returned form as this year do not have to separately arrange the use of an authorized tax submission agency in other provinces.

Quick Return major strengths are in the interactive computer accessible documentation, the speed of data entry and calculation and the ability to compare alternative results. If you prepare multiple returns each year (e.g., 75%, 75%, 75%, etc.) there are other products better suited for bulk processing, screen input and accuracy in field data and passing the results directly to the printer. If you have a limited number of forms and want assistance in knowing what is required to fill the appropriate forms, this product provides a suitable solution.

**Maxima**

Publisher: MAX/TECH Corp.

6200 Highway 110 Unit

Mississauga, Ontario, L4W 3H0

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## World's Fastest CD Rom Drive

- 1.280 MB Access
- 200,000 MB/s, 1.280 MB/s
- 1.280 MB/s Buffer 8A Mode 1 & 2

COMPATIBLE

INTERNAL/EXTERNAL

**739.<sup>95</sup> 899.<sup>95</sup>**

**FREE**

**SURGE PROTECTOR**

with every computer to be  
used in your business

## ACCESSORIES

1" 15"	2" 15"	3" 15"	4" 15"	5" 15"	6" 15"	7" 15"	8" 15"	9" 15"	10" 15"	11" 15"	12" 15"	13" 15"	14" 15"	15" 15"	16" 15"	17" 15"	18" 15"	19" 15"	20" 15"	21" 15"	22" 15"	23" 15"	24" 15"	25" 15"	26" 15"	27" 15"	28" 15"	29" 15"	30" 15"	31" 15"	32" 15"	33" 15"	34" 15"	35" 15"	36" 15"	37" 15"	38" 15"	39" 15"	40" 15"	41" 15"	42" 15"	43" 15"	44" 15"	45" 15"	46" 15"	47" 15"	48" 15"	49" 15"	50" 15"	51" 15"	52" 15"	53" 15"	54" 15"	55" 15"	56" 15"	57" 15"	58" 15"	59" 15"	60" 15"	61" 15"	62" 15"	63" 15"	64" 15"	65" 15"	66" 15"	67" 15"	68" 15"	69" 15"	70" 15"	71" 15"	72" 15"	73" 15"	74" 15"	75" 15"	76" 15"	77" 15"	78" 15"	79" 15"	80" 15"	81" 15"	82" 15"	83" 15"	84" 15"	85" 15"	86" 15"	87" 15"	88" 15"	89" 15"	90" 15"	91" 15"	92" 15"	93" 15"	94" 15"	95" 15"	96" 15"	97" 15"	98" 15"	99" 15"	100" 15"
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## HOUSEWARE

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## DISKETTES

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## COMPUTER PAPER

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## BEETLE MOUSE

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## GENUINE PHOTOS ON SOFTWARE

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# Wise Guy Computers



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# MAYBE WE DON'T CHARGE ENOUGH FOR OUR COMPUTERS.

## Or is it the other way around?

**E**VERY ONCE IN A WHILE WE TAKE A LOOK AT WHAT everyone else is charging for computers. It usually makes us green with envy. We get all glazy-eyed thinking about the big profit margins they must be making on. Then we come back to earth and remember the commitment we've made to our customers.

Ever since we started building IFC computers seven years ago, our goal has been to produce **reliable quality computers** and sell them for the most affordable prices. While the other guys said you had to pay a premium for quality, we were busy proving them wrong.

Leading from their price slashing behavior in recent months, it looks like we were right all along. The competition say they've cut their margins to bring you lower prices. That's reassuring! At IFC, we started out with lower margins, then kept finding ways to save you money.

One of our secrets is **vertical integration**. We own a chip design firm and a board manufacturer. That enables us to control costs throughout the engineering process.

By downsizing our **486 class boards**, we cut material costs and condensed our chip requirements to a minimum. Our engineers designed the new 486DX boards with only 15 TILs (transistors) and 2 ASICs (integrated chip sets). That means lower production costs, lower QC costs, increased yield rates, and frankly less components to worry about.

And we don't have big fat overheads either. If we thought having a corporate pc would improve the quality of our computers, we'd probably buy one tomorrow. But we think you'd prefer that we keep **up support and service**. So we've installed a **full time** line and have engineers standing by to answer all your questions.

The simple truth is, we build computers as good, if not better than the other guys, and sell them for a **lot less money**. Either they charge too much, or we don't charge enough — you decide.

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AST	Compaq	DELL	IFC
Elite 486/33	ProLine 486	486P33	TS4-33MH
486DX	486DX	486DX	486DX
33MHz	33MHz	33MHz	33MHz
4MB RAM	4MB RAM	4MB RAM	4MB RAM
SVGA Colour Monitor	SVGA Colour Monitor	SVGA Colour Monitor	SVGA Colour Monitor
120MB HD	120MB HD	120MB HD	120MB HD
no ext. cache	no ext. cache	no ext. cache	128K cache
MSDOS 5.0	MSDOS 5.0	MSDOS 5.0	MSDOS 5.0
Windows 3.1	no windows	Windows 3.1	Windows 3.1
MS Mouse	no mouse	MS Mouse	MS Mouse
145W	145W	150W	200W
1 Year Warranty	1 Year Warranty	1 Year Warranty	1 Year Warranty
<b>\$2899</b>	<b>\$2797</b>	<b>\$2909</b>	<b>\$2199</b>

## WHAT DO THESE PRICES MEAN

To be fair, we used "suggested list prices" quoted directly by such manufacturer the first week of December, 1993. We made every effort to compare systems that are as similar as possible but each vendor has their own ideas about what is and isn't standard.

Naturally, list prices are not accurate selling prices (except in the case of Dell who sells direct). But whatever price you pay you can be sure of one thing — a dollar for dollar IFC offers the best value in the computer industry. We wouldn't have it any other way!



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